

FILE 'CAPLUS, WPIDS, USPATFULL, PCTFULL, MEDLINE' ENTERED AT 12:55:16 ON  
16 MAR 2004

L1 78723 S (((LINE OR POLYCRYSTAL? OR CRYSTAL? OR MICROCRYSTAL? OR NANOC  
L2 336399 S (COLD WORK? OR MILL? OR GRIND? OR COMPRESS? OR PHYSICAL VAPOR  
L3 400507 S L1 OR L2  
L4 35066 S ACNE OR PRIOPIONIBACTER? OR ACNES  
L5 19 S L3 (200A) L4  
L6 18 DUP REM L5 (1 DUPLICATE REMOVED)

=> d que

L1 78723 SEA (((LINE OR POLYCRYSTAL? OR CRYSTAL? OR MICROCRYSTAL? OR  
NANOCRYSTAL? OR ATOMIC) (20A) (DISORDER? OR DEFECT? OR  
IRREGULAR? OR INHOMOGEN? OR NONHOMOGEN?)) OR AMORPHOUS) (50A)  
(METAL? OR SILVER OR GOLD OR PLATINUM OR PALLADIUM)  
L2 336399 SEA (COLD WORK? OR MILL? OR GRIND? OR COMPRESS? OR PHYSICAL  
VAPOR DEPOSIT? OR PVD OR SPUTTER?) (100A) (METAL? OR SILVER OR  
GOLD OR PLATINUM OR PALLADIUM)  
L3 400507 SEA L1 OR L2  
L4 35066 SEA ACNE OR PRIOPIONIBACTER? OR ACNES  
L5 19 SEA L3 (200A) L4  
L6 18 DUP REM L5 (1 DUPLICATE REMOVED)

=>

=> d 16 1-18 bib ab kwic

L6 ANSWER 1 OF 18 USPATFULL on STN  
AN 2004:58066 USPATFULL  
TI Composition and process for treating acne  
IN Arata, Andrew B., Lake City, FL, UNITED STATES  
PA Innovative Medical Services, El Cajon, CA (U.S. corporation)  
PI US 2004044073 A1 20040304  
AI US 2002-232499 A1 20020831 (10)  
DT Utility  
FS APPLICATION  
LREP Robert F. Frijouf, Frijouf, Rust & Pyle, P.A., 201 East Davis Boulevard,  
Tampa, FL, 33606  
CLMN Number of Claims: 37  
ECL Exemplary Claim: 1  
DRWN 7 Drawing Page(s)  
LN.CNT 955  
AB A composition and process is disclosed for treating an acne infection  
with a composition of electrolytically generated silver citrate. The  
composition of electrolytically generated silver citrate may be applied  
topically to the acne infection in an aqueous solution or may be  
incorporated within a cosmetic product., The acne composition may be  
combined with a composition component such as a cosmetic, a lotion, an  
emulsion, a gel or a soap.  
DETD . . . 5 is a block diagram of a first further method 200A of  
processing the aqueous solution 11 of electrolytically generated  
**silver** citrate 12 of FIGS. 1 and 2 to be suitable for use as the  
**acne** treatment composition 10A. The aqueous solution 11 of  
electrolytically generated **silver** citrate 12 is generated in  
process step 201A. The aqueous solution 11 of electrolytically generated  
**silver** citrate 12 may have a concentration between 1 and 10,000  
parts per **million** electrolytically generated **silver**  
citrate in water. The aqueous solution 11 of electrolytically generated  
**silver** citrate 12 is diluted to form a diluted aqueous solution  
11D having a concentration suitable for direct application to the skin  
surface in process step 202A. The diluted aqueous solution 11D of  
electrolytically generated **silver** citrate 12 may have a  
concentration between 1 to 30 parts per **million**  
electrolytically generated **silver** citrate 12 to water 18. In  
this example, the diluted aqueous solution 11D forms the **acne**  
treatment composition 10A that may be directly applied to the skin  
surface in process step 203A any suitable manner as. . .  
CLM What is claimed is:  
4. A process for treating **acne** as set forth in claim 1,  
wherein the step of topically applying the **acne** treatment  
solution includes topically applying the **acne** treatment  
solution having a concentration between 1 to 30 parts per  
**million** electrolytically generated **silver** citrate in  
water to the site of the **acne**.  
  
6. A process for treating **acne** as set forth in claim 5,  
wherein the step of forming the solution of electrolytically generated  
**silver** citrate includes forming the solution of electrolytically  
generated **silver** citrate to have a concentration between 1 and  
10,000 parts per **million** electrolytically generated  
**silver** citrate in water.  
  
7. A process for treating **acne** as set forth in claim 5,  
wherein the step of forming the composition with the **acne**  
treatment solution includes forming a composition with the  
electrolytically generating **silver** citrate having a  
concentration between 1 to 30 parts per **million**

electrolytically generated **silver** citrate within the composition.

8. A process for treating **acne** as set forth in claim 5, wherein the step of forming the **acne** solution includes forming the solution of electrolytically generated **silver** citrate to have a concentration between 1 and 10,000 parts per **million** electrolytically generated **silver** citrate in water; and the step of forming the composition with the **acne** treatment solution includes forming the composition with the electrolytically generated **silver** citrate having a concentration between 1 to 30 parts per **million** electrolytically generated **silver** citrate within the composition.

15. A process for treating **acne**, comprising forming an **acne** treatment solution by electrolytically generating **silver** citrate by electrolytically generating **silver** ions within a solution of citric acid and water; forming a cosmetic composition with the **acne** treatment solution with the electrolytically generated **silver** citrate having a concentration between 1 to 30 parts per **million** within the cosmetic composition; and topically applying the cosmetic composition to a site of the **acne**.

19. An **acne** treatment composition for treating **acne** as set forth in claim 16, wherein the **acne** treatment solution has a concentration between 1 to 30 parts per **million** electrolytically generated **silver** citrate in water to the site of the **acne**.

21. An **acne** treatment composition for treating **acne**, comprising an aqueous solution of **silver** citrate formed by electrolytically generating **silver** ions within a solution of citric acid and water; and a composition component combined with said aqueous solution of **silver** citrate to form the **acne** treatment composition having a concentration between 1 to 30 parts per **million** electrolytically generated **silver** citrate in the **acne** treatment composition.

22. An **acne** treatment composition for treating **acne** as set forth in claim 21, wherein said solution of electrolytically generated **silver** citrate has a concentration between 1 and 10,000 parts per **million** electrolytically generated **silver** citrate in water.

23. An **acne** treatment composition for treating **acne** as set forth in claim 21, wherein said **acne** treatment composition has a concentration between 1 to 30 parts per **million** electrolytically generated **silver** citrate within the **acne** treatment composition.

24. An **acne** treatment composition for treating **acne** as set forth in claim 21, wherein said solution of electrolytically generated **silver** citrate has a concentration between 1 and 10,000 parts per **million** electrolytically generating **silver** citrate in water; and said **acne** treatment composition having a concentration between 1 to 30 parts per **million** electrolytically generated **silver** citrate within the **acne** treatment composition.

31. An **acne** treatment composition for treating **acne**, comprising an aqueous solution of **silver** citrate formed by

electrolytically generating **silver** ions within a solution of citric acid and water; and a cosmetic component combined with said aqueous solution of **silver** citrate to form the **acne** treatment composition having a concentration between 1 to 30 parts per million electrolytically generated **silver** citrate in the **acne** composition.

L6 ANSWER 2 OF 18 USPATFULL on STN  
AN 2004:13692 USPATFULL  
TI Silver-containing compositions, devices and methods for making  
IN Gibbins, Bruce L., Lake Oswego, OR, UNITED STATES  
Hopman, Lance D., Tigard, OR, UNITED STATES  
PI US 2004010215 A1 20040115  
AI US 2003-441275 A1 20030519 (10)  
RLI Continuation of Ser. No. US 2000-675892, filed on 29 Sep 2000, GRANTED,  
Pat. No. US 6605751 Continuation of Ser. No. US 1998-191223, filed on 13  
Nov 1998, GRANTED, Pat. No. US 6355858 Continuation-in-part of Ser. No.  
US 1997-971074, filed on 14 Nov 1997, GRANTED, Pat. No. US 5928174  
PRAI US 2000-212455P 20000619 (60)  
US 1999-157000P 19991001 (60)  
DT Utility  
FS APPLICATION  
LREP TROUTMAN SANDERS LLP, BANK OF AMERICA PLAZA, SUITE 5200, 600 PEACHTREE  
STREET, NE, ATLANTA, GA, 30308-2216  
CLMN Number of Claims: 20  
ECL Exemplary Claim: 1  
DRWN 8 Drawing Page(s)  
LN.CNT 2195

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention comprises methods and compositions for making a silver-containing antimicrobial hydrophilic material. More particularly, the present invention comprises methods and compositions for stabilized silver antimicrobial devices comprising a matrix comprising a polymer network and a non-gellable polysaccharide, and an active agent. The matrix may be formed into any desired shape for its desired uses.  
SUMM [0042] Additionally, the methods of incorporating stabilized heavy metals, particularly **silver**, into materials can be used for a wide variety of products. For examples, such methods include adding antimicrobial characteristics to cosmetic products, such as dressings, topical lotions, or **compresses** for **acne** and blemishes, scar reduction, tattoo removal, and laser resurfacing, any body- or skin-contacting medical devices, such as, catheter coatings, guidewire. . .

L6 ANSWER 3 OF 18 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN DUPLICATE 1  
AN 2003-606116 [57] WPIDS  
CR 2003-067606 [06]; 2003-830575 [77]; 2003-830978 [77]; 2003-830979 [77];  
2003-899131 [82]; 2004-032631 [03]; 2004-059437 [06]; 2004-069282 [07]  
DNC C2003-165045  
TI Treatment of human tissue having, e.g. **acne**, by forming free-standing powder comprising antimicrobial **metal** with **atomic disorder**, and injecting the free-standing powder to the tissue.  
DC B06  
IN GILLIS, S H  
PA (GILL-I) GILLIS S H  
CYC 1  
PI US 2003086977 A1 20030508 (200357)\* 13p  
ADT US 2003086977 A1 Provisional US 2001-285884P 20010423, CIP of US  
2001-840637 20010423, US 2002-128208 20020423  
PRAI US 2001-285884P 20010423; US 2001-840637 20010423; US 2002-128208  
20020423

←  
CIP of  
my case

AB US2003086977 A UPAB: 20040128

NOVELTY - Treatment of tissue comprises forming a free-standing powder comprising antimicrobial metal with atomic disorder; and injecting the free-standing powder to the tissue.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) treating tissue comprising forming a free-standing powder comprising at least one antimicrobial metal with atomic disorder; and applying the free-standing powder to the tissue to be treated where the tissue is endocardium, pericardium, bone and/or joint tissue; and

(2) treating tissue comprising forming a solution at a site remote from the tissue by dissolving at least one antimicrobial metal with atomic disorder in water; and applying the solution to the tissue, where the tissue is endocardium, pericardium, bone and/or joint tissue.

ACTIVITY - Antiseborrheic; Dermatological; Antipsoriatic; Antiinflammatory; Antiarthritic; Cytostatic; Antimicrobial.

A commercial carboxymethyl cellulose/pectin gel was combined with antimicrobial metals in powder form to produce a gel with 0.1% silver. A logarithmic reduction test was performed using *Pseudomonas aeruginosa*. The inoculum was prepared and added with 0.1 ml of gel and stirred. The mixture was incubated for one half hour. It was added with 1.8 ml sodium thioglycolate-saline solution and stirred. Serial dilutions were prepared on 10<sup>-1</sup> to 10<sup>-7</sup>. A 0.1 ml aliquot of each dilution was plated into Petri dish containing agar. The plates were incubated for 48 hours and then colonies were counted. Surviving members of organisms were determined and the logarithmic reduction compared to the initial inoculum was calculated. The logarithmic reduction was 6.2 indicating bactericidal effect.

MECHANISM OF ACTION - None given.

USE - The method is for treating human or animal tissue consisting of endocardium, pericardium, bone, or joint tissue, having, e.g. acne, psoriasis, eczema, skin infections, endocarditis, pericarditis, proctitis, sinusitis, osteomyelitis, or onchomycosis; tissue having mouth, gum, or throat afflictions; or tissue having arthritis or tumor (claimed).

ADVANTAGE - The antimicrobial metal can be used in local treatments requiring lower total doses and fewer side effects; provides faster infection fighting with low likelihood of bacterial resistance; and due to its long-acting nature, a single dose or infrequent doses results in an easier therapy regimen than many conventional regimens.

Dwg.0/0

TI Treatment of human tissue having, e.g. **acne**, by forming free-standing powder comprising antimicrobial **metal** with **atomic disorder**, and injecting the free-standing powder to the tissue.

TT TT: TREAT HUMAN TISSUE **ACNE** FORMING FREE STAND POWDER COMPRISE ANTIMICROBIAL **METAL** **ATOMIC DISORDER** INJECTION FREE STAND POWDER TISSUE.

L6 ANSWER 4 OF 18 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-393242 [37] WPIDS

DNN N2003-314333 DNC C2003-104357

TI Treating skin disorder e.g. acne comprises applying photomodulation enhancing agent to skin and exposing to source of electromagnetic radiation having at least one dominant emissive wavelength in specific range.

DC B04 B05 D16 D21 P31 S05

IN MCDANIEL, D H

PA (LIGH-N) LIGHT BIOSCIENCE INC

CYC 100

PI WO 2003017824 A2 20030306 (200337)\* EN 29p

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU  
MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK  
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR

KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT  
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM  
ZW

ADT WO 2003017824 A2 WO 2002-US26627 20020822

PRAI US 2001-933870 20010822

AB WO2003017824 A UPAB: 20030612

NOVELTY - Treating skin disorders comprises applying a photomodulation enhancing agent (I) to the skin, proximate to or directly to a target living tissue and exposing (I) to a source of electromagnetic radiation (S) having at least one dominant emissive wavelength (W) of 300-1400 nm. (I) has an absorption characteristic at (W), selected to inhibit reduction in size of or destruction of target tissue.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a skin treatment system which comprises a first light source for emitting light having a wavelength of 300-1300 nm, and a topical chromophore composition (cl) having at least one absorption maximum at 300-1300 nm and at least one metal-ligand bond of formula (I) or (II).

R = Fe, Mg, Cu, Al, reactive transition metal, metal chelate or antibody complex.

ACTIVITY - Antiseborrheic; Dermatological; Antipsoriatic; Virucide; Vulnerary; Cytostatic; Antiulcer; Keratolytic; Antidiabetic; Sedative; Cardiant.

In a test, three females showing active **acne** and **acne** scarring in the facial area were given a topical treatment involving application of a carotenoid composition containing chlorophyll in a carrier suspension of microsponges having a diameter of upto 5  $\mu$  m to the skin of the facial area. The composition was allowed to penetrate for 15-20 minutes. The facial area was then exposed to a continuous wave from a filtered **metal** halide lamp having a dominant emissive wavelength at 415 plus or minus 5 nm and an energy output of 100 m W/cm<sup>2</sup> for 10 minutes. The facial area was then exposed to a pulsed LED treatment involving subjecting the target chromophore fibroblasts and subcellular components to LED light having a pulse width of 250 **milliseconds** and a pulse spacing of 250 **milliseconds** for 90 pulses. Six treatments were done over 12 weeks, to the entire face and putting out medically useful light of 585-595 nm at an intensity of 1.05-2.05  $\mu$  Watts.

The treatment maintained a skin temperature below the threshold of thermal injury. Percentage improvements (pre treatment/post treatment) were 0/85 (for skin elasticity), 0/46 (for scarring) and 0/79 (for active acne lesions).

MECHANISM OF ACTION - None given.

USE - Used for treating skin disorder, and for inhibiting the destruction of sebaceous oil glands, sebaceous ducts, sebocytes and/or their supporting tissues (claimed) e.g. acne, viral warts, scarring, psoriasis, precancerous solar keratosis or skin lesions, hyperhidrosis/excessive sweating, aging, wrinkled or sundamaged skin, skin ulcers (diabetic, pressure or venous stasis), pseudofolliculitis barbae, acne rosacea, sebaceous hyperplasia, cellulite, skin cancer, jet leg, shift work, insomnia, sleep disorders, immune dysfunction, space flight related disorders, prolonged underwater habitation and circadian rhythm disorders, to improve skin permeability, in microencapsulation processes to deliver active agents e.g. anti-acne agent, hair dye for laser hair removal, agents to stimulate hair growth or other hair treatments.

ADVANTAGE - The process does not require expensive, potentially dangerous high-intensity light sources, and involves use of naturally occurring compositions that fall into the category of cosmetics and cosmeceuticals that are safe and do not require FDA approval, eliminating the time and resource expenditures associated with the commercial implementation. The method produces little or no permanent injury or damage to nearby skin tissue.

Dwg.0/15

AB . . . .  
ACTIVITY - Antiseborrheic; Dermatological; Antipsoriatic; Virucide;  
Vulnerary; Cytostatic; Antiulcer; Keratolytic; Antidiabetic; Sedative;  
Cardiant.

In a test, three females showing active **acne** and **acne** scarring in the facial area were given a topical treatment involving application of a carotenoid composition containing chlorophyll in a. . . was allowed to penetrate for 15-20 minutes. The facial area was then exposed to a continuous wave from a filtered **metal** halide lamp having a dominant emissive wavelength at 415 plus or minus 5 nm and an energy output of 100. . . LED treatment involving subjecting the target chromophore fibroblasts and subcellular components to LED light having a pulse width of 250 **milliseconds** and a pulse spacing of 250 **milliseconds** for 90 pulses. Six treatments were done over 12 weeks, to the entire face and putting out medically useful light. . .

L6 ANSWER 5 OF 18 USPATFULL on STN  
AN 2003:307359 USPATFULL  
TI Apparatus and method for high energy photodynamic therapy of acne  
vulgaris, seborrhea and other skin disorders  
IN Harth, Yoram, Haifa, ISRAEL  
Korman, Avner, Herzlia, ISRAEL  
PI US 2003216795 A1 20031120  
AI US 2003-366452 A1 20030213 (10)  
RLI Continuation-in-part of Ser. No. US 2001-7702, filed on 10 Dec 2001,  
PENDING Continuation-in-part of Ser. No. US 2001-756130, filed on 9 Jan  
2001, PENDING Continuation-in-part of Ser. No. WO 1999-IL374, filed on 7  
Jul 1999, PENDING  
DT Utility  
FS APPLICATION  
LREP WATOV & KIPNES, P.C., P.O. Box 247, Princeton Junction, NJ, 08550  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN 25 Drawing Page(s)  
LN.CNT 1713

AB An apparatus, a device, a system and a method for the phototherapy of  
different skin disorders including acne vulgaris, seborrhea and  
inflammation. The invention includes a multiple session treatment method  
by a high irradiance violet/blue CW time gated, or pulsed, light source  
with a spectral emission in the range of 400-450 nanometer and possible  
additional spectral bands in the green and red part of the spectrum. The  
apparatus includes at least one narrow spectral band light source with  
spectral emittance concentrated in the violet/blue spectral band. The  
invention can reduce the level of extra cellular pro inflammatory  
cytokines related to inflammation as well as to significantly reduce the  
acne bacteria population by a photodynamic effect. A system for the  
treatment of acne lesions combining the apparatus for the eradication of  
P. acne bacteria and the acne affected area inflammation and a device  
for the elimination of the red spots around the acne lesions using  
intense pulsed light in the spectral band 500-1000 nm.

DETD . . . above IPL systems deliver approximately 35 J/cm.sup.2 and  
removes sub-cm. vascular lesions by photocoagulation. Typical treatment  
pulse duration is 2-40 **millisecond**. In this embodiment we fix  
a special mask 628 on the treatment aperture side of the IPL head 620  
powered. . . in this mask the typical size of the iris hole 627 is  
.about.2-4 mm which is the size of most **acne** lesions 614 and  
inflamed surroundings. The mask 628 might be made from a thin  
**metal** foil like stainless steel, or from a durable plastic cap.

L6 ANSWER 6 OF 18 USPATFULL on STN  
AN 2003:293953 USPATFULL  
TI Methods of inducing apoptosis and modulating metalloproteinases

IN Burrell, Robert E., Alberta, CANADA  
Gillis, Scott H., Concord, MA, UNITED STATES  
Schechter, Paul, Dover, MA, UNITED STATES  
Wright, John B., San Antonio, TX, UNITED STATES  
Lam, Kan, San Antonio, TX, UNITED STATES  
PI US 2003206966 A1 20031106  
AI US 2002-277320 A1 20021022 (10)  
RLI Continuation-in-part of Ser. No. US 2000-628735, filed on 27 Jul 2000,  
ABANDONED Continuation-in-part of Ser. No. US 2001-916757, filed on 27  
Jul 2001, PENDING Continuation-in-part of Ser. No. US 2001-840637, filed  
on 23 Apr 2001, PENDING Continuation-in-part of Ser. No. US 2002-128208,  
filed on 23 Apr 2002, PENDING Continuation-in-part of Ser. No. US  
2002-131509, filed on 23 Apr 2002, PENDING Continuation-in-part of Ser.  
No. US 2002-131511, filed on 23 Apr 2002, PENDING Continuation-in-part  
of Ser. No. US 2002-131568, filed on 23 Apr 2002, PENDING  
Continuation-in-part of Ser. No. US 2002-159587, filed on 30 May 2002,  
PENDING  
PRAI US 2001-285884P 20010423 (60)  
DT Utility  
FS APPLICATION  
LREP SEAN P. DALEY, Fish & Richardson P.C., 225 Franklin Street, Boston, MA,  
02110-2804  
CLMN Number of Claims: 70  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Page(s)  
LN.CNT 3281

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods of inducing apoptosis and modulating metalloproteinases,  
particularly with metal-containing compounds, are disclosed. The  
metal-containing material can be, for example, an antimicrobial  
material, an antibacterial material, an anti-inflammatory material, an  
anti-fungal material, an anti-viral material, an anti-cancer material, a  
pro-apoptosis material, and/or an MMP modulating material. In certain  
embodiments, the metal-containing material is an atomically disordered,  
silver-containing material.

L6 ANSWER 7 OF 18 USPATFULL on STN  
AN 2003:288288 USPATFULL  
TI Solutions and aerosols of metal-containing compounds  
IN Burrell, Robert E., Alberta, CANADA  
Gillis, Scott H., Concord, MA, UNITED STATES  
Schechter, Paul, Dover, MA, UNITED STATES  
Wright, John B., San Antonio, TX, UNITED STATES  
Lam, Kan, San Antonio, TX, UNITED STATES  
Yin, Hua Qing, Alberta, CANADA  
Naylor, Antony G., Alberta, CANADA  
Moxham, Peter H., Alberta, CANADA

PI US 2003203046 A1 20031030  
AI US 2003-364983 A1 20030212 (10)  
RLI Continuation of Ser. No. US 2002-277673, filed on 22 Oct 2002, PENDING  
Continuation-in-part of Ser. No. US 2000-628735, filed on 27 Jul 2000,  
ABANDONED  
DT Utility  
FS APPLICATION  
LREP FISH & RICHARDSON PC, 225 FRANKLIN ST, BOSTON, MA, 02110  
CLMN Number of Claims: 77  
ECL Exemplary Claim: 1  
DRWN 5 Drawing Page(s)  
LN.CNT 3395

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Solutions and aerosols of metal-containing compounds are disclosed.  
Methods of preparing and using the solutions and aerosols, particularly

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my  
case



in the treatment of a subject having a condition, are also disclosed. The metal-containing material can be, for example, an antimicrobial material, an antibacterial material, an anti-inflammatory material, an anti-fungal material, an anti-viral material, an anti-cancer material, a pro-apoptosis material, and/or an MMP modulating material. In certain embodiments, the metal-containing material is an atomically disordered, silver-containing material.

L6 ANSWER 8 OF 18 USPATFULL on STN  
AN 2003:276419 USPATFULL  
TI Methods of treating skin and integument conditions  
IN Burrell, Robert E., Alberta, CANADA  
Gillis, Scott H., Concord, MA, UNITED STATES  
Schechter, Paul, Dover, MA, UNITED STATES  
Wright, John B., San Antonio, TX, UNITED STATES  
Lam, Kan, San Antonio, TX, UNITED STATES  
Yin, Hua Qing, Alberta, CANADA  
PI US 2003194444 A1 20031016  
AI US 2002-277362 A1 20021022 (10)  
RLI Continuation-in-part of Ser. No. US 2000-628735, filed on 27 Jul 2000, ABANDONED Continuation-in-part of Ser. No. US 2001-916757, filed on 27 Jul 2001, PENDING Continuation-in-part of Ser. No. US 2001-840637, filed on 23 Apr 2001, PENDING Continuation-in-part of Ser. No. US 2002-128208, filed on 23 Apr 2002, PENDING Continuation-in-part of Ser. No. US 2002-131511, filed on 23 Apr 2002, PENDING Continuation-in-part of Ser. No. US 2002-131568, filed on 23 Apr 2002, PENDING Continuation-in-part of Ser. No. US 2002-159587, filed on 30 May 2002, PENDING Continuation-in-part of Ser. No. US 2002-131509, filed on 23 Apr 2002, PENDING  
PRAI US 2001-285884P 20010423 (60)  
DT Utility  
FS APPLICATION  
LREP FISH & RICHARDSON PC, 225 FRANKLIN ST, BOSTON, MA, 02110  
CLMN Number of Claims: 28  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Page(s)  
LN.CNT 3178  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB Methods of treating skin and integument conditions, particularly with metal-containing compounds, are disclosed. The metal-containing material can be, for example, an antimicrobial material, an antibacterial material, an anti-inflammatory material, an anti-fungal material, an anti-viral material, an anti-cancer material, a pro-apoptosis material, and/or an MMP modulating material. In certain embodiments, the metal-containing material is an atomically disordered, silver-containing material.

L6 ANSWER 9 OF 18 USPATFULL on STN  
AN 2003:264887 USPATFULL  
TI Methods of treating conditions with a metal-containing material  
IN Burrell, Robert E., Alberta, CANADA  
Gillis, Scott H., Concord, MA, UNITED STATES  
Schechter, Paul, Dover, MA, UNITED STATES  
Naylor, Antony G., Alberta, CANADA  
Moxham, Peter H., Alberta, CANADA  
Wright, John B., San Antonio, TX, UNITED STATES  
Lam, Kan, San Antonio, TX, UNITED STATES  
PI US 2003185901 A1 20031002  
AI US 2002-277358 A1 20021022 (10)  
RLI Continuation-in-part of Ser. No. US 2000-628735, filed on 27 Jul 2000, ABANDONED Continuation-in-part of Ser. No. US 2001-916757, filed on 27 Jul 2001, PENDING Continuation-in-part of Ser. No. US 2001-840637, filed

on 23 Apr 2001, PENDING Continuation-in-part of Ser. No. US 2002-131509, filed on 23 Apr 2002, PENDING Continuation-in-part of Ser. No. US 2002-131511, filed on 23 Apr 2002, PENDING Continuation-in-part of Ser. No. US 2002-131568, filed on 23 Apr 2002, PENDING Continuation-in-part of Ser. No. US 2002-159587, filed on 30 May 2002, PENDING Continuation-in-part of Ser. No. US 2002-128208, filed on 23 Apr 2002, PENDING

PRAI US 2001-285884P 20010423 (60)  
DT Utility  
FS APPLICATION  
LREP FISH & RICHARDSON PC, 225 FRANKLIN ST, BOSTON, MA, 02110  
CLMN Number of Claims: 71  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Page(s)  
LN.CNT 3356

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods of treating conditions with a metal-containing material are disclosed. The metal-containing material can be, for example, an antimicrobial material, an antibacterial material, an anti-inflammatory material, an anti-fungal material, an anti-viral material, an anti-cancer material, a pro-apoptosis material, and/or an MMP modulating material. In certain embodiments, the metal-containing material is an atomically disordered, silver-containing material.

L6 ANSWER 10 OF 18 USPATFULL on STN  
AN 2003:257329 USPATFULL  
TI Solutions and aerosols of metal-containing compounds  
IN Burrell, Robert E., Alberta, CANADA  
Gillis, Scott H., Concord, MA, UNITED STATES  
Schechter, Paul, Dover, MA, UNITED STATES  
Wright, John B., San Antonio, TX, UNITED STATES  
Lam, Kan, San Antonio, TX, UNITED STATES  
Yin, Hua Qing, Alberta, CANADA  
Naylor, Antony G., Alberta, CANADA  
Moxham, Peter H., Alberta, CANADA

PI US 2003180379 A1 20030925  
AI US 2002-277673 A1 20021022 (10)  
RLI Continuation-in-part of Ser. No. US 2000-628735, filed on 27 Jul 2000, ABANDONED Continuation-in-part of Ser. No. US 2001-916757, filed on 27 Jul 2001, PENDING Continuation-in-part of Ser. No. US 2001-840637, filed on 23 Apr 2001, PENDING Continuation-in-part of Ser. No. US 2002-128208, filed on 23 Apr 2002, PENDING Continuation-in-part of Ser. No. US 2002-131509, filed on 23 Apr 2002, PENDING Continuation-in-part of Ser. No. US 2002-131511, filed on 23 Apr 2002, PENDING

DT Utility  
FS APPLICATION  
LREP FISH & RICHARDSON PC, 225 FRANKLIN ST, BOSTON, MA, 02110  
CLMN Number of Claims: 77  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Page(s)  
LN.CNT 3353

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Solutions and aerosols of metal-containing compounds are disclosed. Methods of preparing and using the solutions and aerosols, particularly in the treatment of a subject having a condition, are also disclosed. The metal-containing material can be, for example, an antimicrobial material, an antibacterial material, an anti-inflammatory material, an anti-fungal material, an anti-viral material, an anti-cancer material, a pro-apoptosis material, and/or an MMP modulating material. In certain embodiments, the metal-containing material is an atomically disordered, silver-containing material.

L6 ANSWER 11 OF 18 USPATFULL on STN  
AN 2003:257328 USPATFULL  
TI Dry powders of metal-containing compounds  
IN Gillis, Scott H., Concord, MA, UNITED STATES  
Schechter, Paul, Dover, MA, UNITED STATES  
Burrell, Robert E., Alberta, CANADA  
PI US 2003180378 A1 20030925  
AI US 2002-277298 A1 20021022 (10)  
RLI Continuation-in-part of Ser. No. US 2000-628735, filed on 27 Jul 2000,  
ABANDONED Continuation-in-part of Ser. No. US 2001-916757, filed on 27  
Jul 2001, PENDING Continuation-in-part of Ser. No. US 2001-840637, filed  
on 23 Apr 2001, PENDING Continuation-in-part of Ser. No. US 2002-128208,  
filed on 23 Apr 2002, PENDING Continuation-in-part of Ser. No. US  
2002-131509, filed on 23 Apr 2002, PENDING Continuation-in-part of Ser.  
No. US 2002-131511, filed on 23 Apr 2002, PENDING Continuation-in-part  
of Ser. No. US 2002-131568, filed on 23 Apr 2002, PENDING  
Continuation-in-part of Ser. No. US 2002-159587, filed on 30 May 2002,  
PENDING  
DT Utility  
FS APPLICATION  
LREP FISH & RICHARDSON PC, 225 FRANKLIN ST, BOSTON, MA, 02110  
CLMN Number of Claims: 72  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Page(s)  
LN.CNT 3343  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Dry powders of metal-containing compounds are disclosed. Methods of  
preparing and using the dry powders, particularly in the treatment of a  
subject having a condition, are also disclosed. The metal-containing  
material can be, for example, an antimicrobial material, an  
antibacterial material, an anti-inflammatory material, an anti-fungal  
material, an anti-viral material, an anti-cancer material, a  
pro-apoptosis material, and/or an MMP modulating material. In certain  
embodiments, the metal-containing material is an atomically disordered,  
silver-containing material.

L6 ANSWER 12 OF 18 USPATFULL on STN  
AN 2003:243905 USPATFULL  
TI Compositions of metal-containing compounds  
IN Burrell, Robert E., Alberta, CANADA  
Gillis, Scott H., Concord, MA, UNITED STATES  
Schechter, Paul, Dover, MA, UNITED STATES  
Wright, John B., San Antonio, TX, UNITED STATES  
Lam, Kan, San Antonio, TX, UNITED STATES  
Yin, Hua Qing, Alberta, CANADA  
Naylor, Antony G., Alberta, CANADA  
Moxham, Peter H., Alberta, CANADA  
PI US 2003170314 A1 20030911  
AI US 2002-277356 A1 20021022 (10)  
RLI Continuation-in-part of Ser. No. US 2000-628735, filed on 27 Jul 2000,  
ABANDONED Continuation-in-part of Ser. No. US 2001-916757, filed on 27  
Jul 2001, PENDING Continuation-in-part of Ser. No. US 2001-840637, filed  
on 23 Apr 2001, PENDING Continuation-in-part of Ser. No. US 2002-131509,  
filed on 23 Apr 2002, PENDING Continuation-in-part of Ser. No. US  
2002-131511, filed on 23 Apr 2002, PENDING  
DT Utility  
FS APPLICATION  
LREP FISH & RICHARDSON PC, 225 FRANKLIN ST, BOSTON, MA, 02110  
CLMN Number of Claims: 45  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Page(s)  
LN.CNT 3249

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compositions of metal-containing compounds are disclosed. Methods of preparing and using the compositions, particularly in the treatment of a subject having a condition, are also disclosed. The metal-containing material can be, for example, an antimicrobial material, an antibacterial material, an anti-inflammatory material, an anti-fungal material, an anti-viral material, an anti-cancer material, a pro-apoptosis material, and/or an MMP modulating material. In certain embodiments, the metal-containing material is an atomically disordered, silver-containing material.

L6 ANSWER 13 OF 18 USPATFULL on STN

AN 2003:78126 USPATFULL

TI Treatment of inflammatory skin conditions

IN Burrell, Robert Edward, Sherwood Park, CANADA

Yin, Hua Qing, Sherwood Park, CANADA

PI US 2003054046 A1 20030320

AI US 2002-131511 A1 20020423 (10)

RLI Continuation-in-part of Ser. No. US 2001-840637, filed on 23 Apr 2001, PENDING

PRAI US 2001-285884P 20010423 (60)

DT Utility

FS APPLICATION

LREP GREENLEE WINNER AND SULLIVAN P C, 5370 MANHATTAN CIRCLE, SUITE 201, BOULDER, CO, 80303

CLMN Number of Claims: 94

ECL Exemplary Claim: 1

DRWN 2 Drawing Page(s)

LN.CNT 2334

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to the use of one or more antimicrobial metals, most preferably silver, preferably formed with atomic disorder, and preferably in a nanocrystalline form, for the treatment of inflammatory skin conditions. The nanocrystalline antimicrobial metal of choice may be used in the form of a nanocrystalline coating of one or more antimicrobial metals, a nanocrystalline powder of one or more antimicrobial metals, or a solution containing dissolved species from a nanocrystalline powder or coating of one or more antimicrobial metals.

SUMM [0041] Through research, the inventors have established that **crystalline antimicrobial metals** such as **nanocrystalline silver**, preferably formed with **atomic disorder**, are effective antimicrobial agents against bacteria associated with inflammatory skin conditions such as **acne**. Further, the inventors have established through clinical observations with **acne** and eczema patients, and in animal experiments for allergic contact dermatitis, that antimicrobial **metals** such as **silver**, formed with **atomic disorder**, also reduce the inflammatory reaction. Further, the inventors have demonstrated that antimicrobial **metals** such as **silver**, formed with **atomic disorder**, can alleviate erythema and edema, which are characteristic symptoms of many inflammatory skin conditions. This research has resulted in a new therapeutic treatment for **acne**, eczema, and other inflammatory skin conditions. In some inflammatory conditions, secondary infection by bacteria or other microbiological agents is a possibility. When the antimicrobial **metal** is silver, this new treatment will have dual advantages of both antimicrobial and anti-inflammatory effects, with fewer side effects and. . .

DETD [0184] As set out in Examples 6 and 7 for **acne**, and Example 9 for eczema, dressings carrying a bi-layer **nanocrystalline antimicrobial metal** coating formed with **silver** having **atomic disorder**, manufactured as set out

above and as described in greater detail in Example 1, have shown substantial clinical response in treating inflammatory skin conditions. Dressings prepared with a single layer of **silver** having a reduced content of oxygen in the coating, as set forth in Example 5, gave similar clinical results, without. . .

DETD [0210] An in vitro test was conducted to determine if **silver** solutions according to the present invention effectively control *Propionibacterium acne*. The **silver** solution was obtained by static elution of Acticoat.TM. Burn Wound Dressing (lot#: 00403A-05, Westaim Biomedical Corp., Fort Saskatchewan, Canada) with nanopure water in a ratio of one square inch of dressing in five **milliliters** of water for 24 hours at room temperature. The **silver** concentration of the **silver** solution was determined by an atomic absorption method. The **silver** elute was diluted with nanopure water to 20 .mu.g/ml. The *Propionibacterium acne* (ATCC No. 0919) was provided by Biofilm Research Group, University of Calgary.

DETD [0221] A 49 year old white male experienced occasional **acne** vulgaris. He had painful, raised, red papules and pustules on his shoulders. The patient was treated with a thin hydrocolloid. . . (Craig Medical Products Ltd., Clay Gate House 46 Albert Rd. North Reigate, Surrey, United Kingdom) which was impregnated with 1% **nanocrystalline silver** powder formed with **atomic disorder** as in Example 3. Following cleansing, the pustule was covered with a small disc of the dressing, which remained in. . .

L6 ANSWER 14 OF 18 USPATFULL on STN

AN 2003:216243 USPATFULL

TI Silver-containing compositions, devices and methods for making

IN Gibbins, Bruce L., Lake Oswego, OR, United States

Hopman, Lance D., Aloha, OR, United States

PA Acrymed, Portland, OR, United States (U.S. corporation)

PI US 6605751 B1 20030812

AI US 2000-675892 20000929 (9)

RLI Continuation-in-part of Ser. No. US 1998-191223, filed on 13 Nov 1998, now patented, Pat. No. US 6355858 Continuation-in-part of Ser. No. US 1997-971074, filed on 14 Nov 1997, now patented, Pat. No. US 5928174

PRAI US 2000-212455P 20000619 (60)

US 1999-157000P 19991001 (60)

DT Utility

FS GRANTED

EXNAM Primary Examiner: Millin, Vincent; Assistant Examiner: Hamilton, Lalita M.

LREP Troutman Sanders LLP

CLMN Number of Claims: 25

ECL Exemplary Claim: 1

DRWN 12 Drawing Figure(s); 8 Drawing Page(s)

LN.CNT 2204

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention comprises methods and compositions for making a silver-containing antimicrobial hydrophilic material. More particularly, the present invention comprises methods and compositions for stabilized silver antimicrobial devices comprising a matrix comprising a polymer network and a non-gellable polysaccharide, and an active agent. The matrix may be formed into any desired shape for its desired uses.

SUMM Additionally, the methods of incorporating stabilized heavy **metals**, particularly **silver**, into materials can be used for a wide variety of products. For examples, such methods include adding antimicrobial characteristics to cosmetic products, such as dressings, topical lotions, or **compresses** for **acne** and blemishes, scar reduction, tattoo removal, and laser resurfacing,

any body-or skin-contacting medical devices, such as, catheter coatings, guidewire coatings, . . .

L6 ANSWER 15 OF 18 USPATFULL on STN  
AN 2002:336941 USPATFULL  
TI Treatment of acne  
IN Burrell, Robert Edward, Sherwood Park, CANADA  
Yin, Hua Qing, Sherwood Park, CANADA  
PI US 2002192298 A1 20021219  
AI US 2001-840637 A1 20010423 (9)  
DT Utility  
FS APPLICATION  
LREP GREENLEE WINNER AND SULLIVAN P C, 5370 MANHATTAN CIRCLE, SUITE 201, *my Carl*  
BOULDER, CO, 80303  
CLMN Number of Claims: 12  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 1255  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to the use of one or more antimicrobial **metals** selected from **silver, gold, platinum, and palladium** but most preferably **silver**, preferably formed with **atomic disorder**, and preferably in a **nanocrystalline** form, for the treatment of a **acne**. The **nanocrystalline** antimicrobial **metal** of choice may be used in the form of a nanocrystalline coating of one or more antimicrobial **metals**, a nanocrystalline powder of one or more antimicrobial **metals**, or a solution containing dissolved species from a nanocrystalline powder or coating of one or more antimicrobial **metals**.

AB The invention relates to the use of one or more antimicrobial **metals** selected from **silver, gold, platinum, and palladium** but most preferably **silver**, preferably formed with **atomic disorder**, and preferably in a **nanocrystalline** form, for the treatment of a **acne**. The **nanocrystalline** antimicrobial **metal** of choice may be used in the form of a nanocrystalline coating of one or more antimicrobial **metals**, a nanocrystalline powder of one or more antimicrobial **metals**, or a solution containing dissolved species from a nanocrystalline powder or coating of one or more antimicrobial **metals**.

SUMM [0026] Through research, the inventors have established that **crystalline** anti-microbial **metals** such as **silver**, preferably formed with **atomic disorder**, are effective antimicrobial agents against the bacteria associated with **acne**. The inventors have further established through clinical observations with **acne** patients, and in animal experiments, that **nanocrystalline** anti-microbial **metals** such as **silver**, formed with **atomic disorder**, reduce the inflammatory reaction. This research has resulted in a new therapeutic treatment for **acne**. When the anti-microbial **metal** is **silver**, this new **acne** treatment will have advantages of fewer side effects and less chance of development of resistant bacteria.

SUMM [0027] The inventors have discovered that anti-microbial **metals** selected from one or more of **silver, gold, platinum and palladium**, are effective in the treatment of **acne**. These anti-microbial **metals** are formed with **atomic disorder**, such that ions, clusters, atoms or molecules of the **metals** are released at a concentration sufficient to provide a localized antimicrobial and anti-inflammatory effect. Most preferably, the antimicrobial

**metals** are in a **nanocrystalline** form, and include sufficient **atomic disorder** to provide an antimicrobial and anti-inflammatory effect on a sustainable basis.

SUMM [0078] The **nanocrystalline** coating is most preferably formed with **atomic disorder** in accordance with the procedures set out above and as described in WO 93/23092, WO 95/13704, and WO98/41095, and as set out below. Most preferably, the coating is formed as a multilayer coating of the antimicrobial **metals**, having a top and a base layer, as set below, to produce an interference colour. In this way, the coating provides not only the active ingredient for the treatment of **acne**, but also acts as an indicator of activation of the dressing. As the top layer of the coating is activated. . .

SUMM [0085] As set out in Examples 5, dressings carrying a bi-layer **nanocrystalline** antimicrobial **metal** coating formed with **silver** having **atomic disorder**, manufactured as set out above and as described in greater detail in Example 1, have shown substantial clinical response in treating **acne**. Dressings prepared with a single layer of **silver** having a reduced content of oxygen in the coating, as set forth in Example 2, gave similar clinical results, without. . .

DETD [0153] An in vitro test was conducted to determine if **silver** solutions according to the present invention effectively control Propionibacterium **acne**. The **silver** solution was obtained by static elution of Acticoat.TM. Burn Wound Dressing (lot #: 00403A-05, Westaim Biomedical Corp., Fort Saskatchewan, Canada) with nanopure water in a ratio of one square inch of dressing in five **milliliters** of water for 24 hours at room temperature. The **silver** concentration of the **silver** solution was determined by an atomic absorption method. The **silver** elute was diluted with nanopure water to 20 .mu.g/ml. The Propionibacterium **acne** (ATCC No. 0919) was provided by Biofilm Research Group, University of Calgary.

L6 ANSWER 16 OF 18 PCTFULL COPYRIGHT 2004 Univentio on STN  
 AN 2002085387 PCTFULL ED 20021111 EW 200244  
 TIEN TREATMENT OF INFLAMMATORY SKIN CONDITIONS  
 TIFR TRAITEMENT D'ETATS INFLAMMATOIRES DE LA PEAU  
 IN BURRELL, Robert, Edward, 52055, R.R. 221, Sherwood Park, Alberta T8E 1C6, CA [CA, CA];  
 YIN, Hua, Qing, 24 Davy Crescent, Sherwood Park, Alberta T8H 1P3, CA [CN, CA]

PA NUCRYST PHARMACEUTICALS CORP., 10102-114 Street, Fort Saskatchewan, Alberta T8L 3W4, CA [CA, CA], for all designates States except US;  
 BURRELL, Robert, Edward, 52055, R.R. 221, Sherwood Park, Alberta T8E 1C6, CA [CA, CA], for US only;  
 YIN, Hua, Qing, 24 Davy Crescent, Sherwood Park, Alberta T8H 1P3, CA [CN, CA], for US only

AG McKAY-CAREY, Mary, Jane, McKay-Carey & Company, 2590 Commerce Place, 10155-102 Street, Edmonton, Alberta T5J 4G8, CA

LAF English

LA English

DT Patent

PI WO 2002085387 A2 20021031

DS W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
 CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
 IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN  
 MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM  
 TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW  
 RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

AI WO 2002-CA549 A 20020423

PRAI US 2001-60/285,884 20010423

US 2001-09/840,637 20010423

ABEN The invention relates to the use of one or more antimicrobial metals, most preferably silver, preferably formed with atomic disorder, and preferably in a nanocrystalline form, for the treatment of inflammatory skin conditions. The nanocrystalline antimicrobial metal of choice may be used in the form of a nanocrystalline coating of one or more antimicrobial metals, a nanocrystalline powder of one or more antimicrobial metals, or a solution containing dissolved species from a nanocrystalline powder or

ABFR L'invention concerne l'utilisation d'un ou de plusieurs métaux antimicrobiens, idéalement de l'argent, formes de préférence avec un désordre atomique et se présentant de préférence sous forme nanocristalline, pour traiter des états inflammatoires de la peau. Les métaux antimicrobiens nanocristallins choisis peuvent être utilisés sous forme de revêtement nanocristallin d'un ou de plusieurs métaux antimicrobiens, de poudre nanocristalline d'un ou de plusieurs métaux antimicrobiens ou de solution contenant des espèces dissoutes d'une poudre nanocristalline ou d'un revêtement nanocristallin d'un ou de plusieurs métaux antimicrobiens.

DETD SUMMARY OF THE INVENTION

Through research, the inventors have established that **crystalline antimicrobial metals** such as **nanocrystalline silver**, preferably formed with **atomic disorder**, are effective antimicrobial agents against bacteria associated with inflammatory skin conditions such as

**acne**. Further, the inventors have established through clinical observations with **acne** and eczema patients, and in animal experiments for allergic contact dermatitis, that antimicrobial

**metals** such as **silver**, formed with **atomic disorder**, also reduce the inflammatory reaction.

Further, the inventors have demonstrated that antimicrobial **metals** such as **silver**, formed with **atomic disorder**, can alleviate erythema and edema, which are characteristic symptoms of many inflammatory skin conditions. This research has resulted in a new therapeutic treatment

8

for **acne**, eczema, and other inflammatory skin conditions. In some inflammatory conditions, secondary infection by bacteria or other microbiological agents is a possibility. When the antimicrobial **metal** is silver, this new treatment will have dual advantages of both antimicrobial and anti-inflammatory effects, with fewer side effects and less. . . .

As set out in Examples 6 and 7 for **acne**, and Example 9 for eczema, dressings carrying a bi-layer **nanocrystalline antimicrobial metal** coating formed with **silver** having **atomic**



**disorder**, manufactured as set out above and as described in greater detail in Example 1, have shown substantial clinical response in treating inflammatory skin conditions. Dressings prepared with a single layer of **silver** having a reduced content of oxygen in the coating, as set forth in Example 5, gave similar clinical results, without staining. .

Example 4 - In vitro Activity of **Silver** Solution against **Propionibacterium acne**

An in vitro test was conducted to determine if **silver** solutions according to the present invention effectively control **Propionibacterium acne**. The **silver** solution was obtained by static elution of Acticoat'm Bum Wound Dressing (lot #: 00403A-05, Westairn Biomedical Corp., Fort Saskatchewan, Canada) with nanopure water in a ratio of one square inch of dressing in five milliliters of water for 24 hours at room temperature. The **silver** concentration of the **silver** solution was determined by an atomic absorption method. The **silver** elute was diluted with nanopure water to 20 gg/ml. The **Propionibacterium acne** (ATCC No. 0919) was provided by Biofilm Research Group, University of Calgary.

Example 8 - Treatment of Adult **Acne** with Silver-Impregnated Hydrocolloid Dressing

A 49 year old white male experienced occasional **acne vulgaris**. He had painful, raised, red papules and pustules on his shoulders. The patient was treated with a thin hydrocolloid dressing (Craig Medical Products Ltd., Clay Gate House 46 Albert Rd. North Reigate, Surrey, United Kingdom) which was impregnated with 1 % **nanocrystalline silver** powder formed with **atomic disorder** as in Example 3. Following cleansing, the pustule was covered with a small disc of the dressing, which remained in place. . .

L6 ANSWER 17 OF 18 PCTFULL COPYRIGHT 2004 Univentio on STN  
 AN 2002085299 PCTFULL ED 20021111 EW 200244  
 TIEN THERAPEUTIC TREATMENTS USING THE DIRECT APPLICATION OF ANTIMICROBIAL  
 METAL COMPOSITIONS  
 TIFR TRAITEMENTS THERAPEUTIQUES RECOURANT A L'APPLICATION DIRECTE DE  
 COMPOSITIONS METALLIQUES ANTIMICROBIENNES  
 IN BURRELL, Robert, E., 52022 Range Road 221, Sherwood Park, Alberta, CA;  
 GILLIS, Scott, H., 80 Alford Circle, Concord, MA 01742, US  
 PA NUCRYST PHARMACEUTICALS CORP., 50 Audubon Road, Suite B, Wakefield, MA  
 01880, US [US, US]  
 AG PANDISCIO, Mark, J., Pandiscio & Pandiscio, 470 Totten Pond Road,  
 Waltham, MA 02451-1914, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2002085299 A2 20021031  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
 CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
 IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN  
 MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT  
 TZ UA UG UZ VN YU ZA ZW

RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
RW (EPO): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR  
RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

AI WO 2002-US12690 A 20020423

PRAI US 2001-60/285,884 20010423

US 2001-09/840,637 20010423

ABEN Therapeutic treatments using the direct application of selected structures of antimicrobial metals in free-standing powder form, solution form and/or suspension form in therapeutically effective amounts. The selected structures of antimicrobial metals serve as an antimicrobial agent, an anti-inflammatory agent, an immuno modulator agent, an enzyme modulator agent, and/or an anti-tumor agent, for human and/or animal use.

ABFR Cette invention se rapporte a des traitements therapeutiques recourant a l'application directe de structures selectionnees de metaux antimicrobiens sous la forme d'une poudre autonome, d'une solution et/ou d'une suspension en quantites therapeutiquement efficaces. Les structures selectionnees de metaux antimicrobiens servent d'agent antimicrobien, d'agent anti-inflammatoire, d'agent immuno-modulateur, d'agent modulateur d'enzyme et/ou d'agent antitumoral a usage humain et/ou animal.

DETD Where the antimicrobial **metals** with **atomic disorder** are to be applied to the tissue in free-standing powder form by inhalation and/or injection, it is preferred that the particulate size. . . so minimize any adverse reaction to the presence of the particulate in the tissue, Many health afflictions can be addressed by delivering antimicrobial **metals** with **atomic disorder**, in free-standing powder form, to an interior anatomical site with small-needle and/or needle-less drug delivery systems. Examples of some of these applications include: (1) dermal drug delivery for skin conditions such as, but not limited to, **acne**, psoriasis, eczema and skin infections; (2) localized infections such as, but not limited to, middle ear infections, endocarditis, pericarditis, prostatitis, sinusitis, osteomyelitis and onychomycosis; . . .

By way of example, a solution of antimicrobial **metals** with **atomic disorder** can be applied as a rinse or bath or wash to treat a dermal condition such as, but not limited to, **acne**, psoriasis, eczema and skin infections. Alternatively, a solution of antimicrobial **metals** with **atomic disorder** can be applied as a rinse or bath or wash to treat a wound or a surgical site.

- 31 -

It is also possible to apply a solution of antimicrobial **metals** with **atomic disorder**, in liquid form, to internal anatomy using a small-needle and/or needle-less drug delivery systems, including catheter-based drug delivery systems. Thus, for example, a solution of antimicrobial **metals** with **atomic disorder** may be introduced by catheter into the bladder to treat

*my case*

a bladder infection; or injected into the middle ear to treat middle ear. . . as to treat conditions such as, but not limited to, endocarditis, pericarditis, prostatitis, sinusitis, osteomyelitis and onychomycosis; or injected into skin tissue to treat **acne**, psoriasis, eczema and/or other skin conditions; etc,

?O

- 32 -

#### Use Of Antimicrobial **Metals** With **Atomic**

##### **Disorder**

In Solution Form - Aerosol Application

A solution of antimicrobial **metals** with **atomic**

**disorder** may also be applied, in aerosol form, to a wide range of different tissues in therapeutically effective amounts so as to therapeutically. . .

By way of example, a solution of antimicrobial

**metals** with **atomic disorder** may be applied in aerosol

form to surface tissues as a spray. Thus, a solution of antimicrobial **metals** with **atomic disorder** can be

applied as a spray to treat a dermal condition such as, but not limited to, **acne**, psoriasis, eczema and skin infections. Alternatively, a solution of antimicrobial

**metals** with **atomic disorder** can be applied as a spray

to treat or clean a wound or a surgical site.

#### Use Of Antimicrobial **Metals** With **Atomic**

##### **Disorder**

In Suspension Form - Free-Standing Form

As noted above, a suspension of antimicrobial

**metals** with **atomic disorder** can comprise a free-

standing form, i.e., it can comprise a liquid such as a lotion; or a semi-solid such as a . . . to be treated, in therapeutically effective

amounts, and can be used to treat a dermal condition such as, but not limited to, **acne**, psoriasis, eczema and skin infections. Alternatively, the free-standing forms of the suspension can be applied topically to

?O treat a wound or a . . .

A wet gel product of antimicrobial **metals** with **atomic disorder** is a product that provides moisture to

a dry skin condition (psoriasis, eczema, **acne**, wound, etc.) and facilitates autolytic debridement of necrotic tissue. It also delivers the antimicrobial and anti-inflammatory properties of the suspended antimicrobial **metals** with **atomic disorder** powders.

L6 ANSWER 18 OF 18 PCTFULL COPYRIGHT 2004 Univentio on STN  
AN 2001012221 PCTFULL ED 20020828  
TIEN THERAPEUTIC AND PROPHYLACTIC COMPOSITIONS INCLUDING CATALYTIC BIOMIMETIC  
SOLIDS AND METHODS TO PREPARE AND USE THEM  
TIFR COMPOSITIONS THERAPEUTIQUES ET PROPHYLACTIQUES CONTENANT DES SOLIDES  
BIOMIMETIQUES CATALYTIQUES ET PROCEDES DE PREPARATION ET D'UTILISATION  
DE CELLES-CI

IN COLIC, Miroslav  
PA HENCEFORTH HIBERNIA, INC.  
DT Patent  
PI WO 2001012221 A1 20010222  
DS W:

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK  
DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL  
PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU  
ZA ZW GH GM KE LS MW MZ SD SL SZ TZ UG ZW AM AZ BY KG KZ  
MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC  
NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

AI WO 2000-US40657 A 20000816  
PRAI US 1999-60/149,131 19990816

ABEN The invention discloses therapeutic and prophylactic compositions based on synthetic solid catalysts such as zeolites, clays, silicates, silicas and double hydroxides. These solids can be used to treat numerous disease conditions such as diabetes, arthritis and other autoimmune diseases, cancer, skin diseases, microbial infections etc. The invention also describes methods to produce such products and use them independently or in combination with other pharmaceutically and biologically active ingredients. Such catalysts are designed so to imitate biological catalytic systems (enzymes, antigen presenting cells, delayed active component release, cell organelles, etc.) and are, therefore, biomimetic.

ABFR

DETD is Both natural and synthetic zeolites clinoptilolite and mordenite have very small pores suitable for delayed release of **metal** ions. They can be used for the delayed use of **silver** and zinc, which augment the immune system and also have antimicrobial activity of their own. Simple mixing of 0.05 M of **silver** nitrate and 0.05 M of zinc nitrate with either powder results in ion exchange. Heating to 70°C during mixing enhances ion exchange. After 24 hours of equilibration, zeolite powder can then be filtered, dried and ground in high-energy ball **mill** described earlier, for instance in EXAMPLE I. Such fine crystalline powder can also be mixed with herb echinacea, (1:1) ratio, to further enhance. . . powders on the skin surface and internal intake (twice a day 1000 mg) resulted in significant improvement in 8 out of 10 **acne** patients.